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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,061	02/07/2002	Jui-Lin Hung	B-4498 619518-8	3405

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EXAMINER
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ECKERT II, GEORGE C

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/071,061

Applicant(s)  
Hung et al.

Examiner  
George C. Eckert II

Art Unit  
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 18, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 15-26 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 7, 2002 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment dated September 18, 2003 in which claims 1, 9, 15 and 22 were amended has been entered. Claims 1-26 are pending.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

3. Objection to the title is withdrawn based on applicant's amendment.

***Claim Objections***

4. Objection to claim 22 is withdrawn based on applicant's amendment.

***Claim Rejections - 35 U.S.C. § 112***

5. Rejections of claims 1-26 under 35 U.S.C. 112, second paragraph, are withdrawn based on applicant's amendments.

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***Claim Rejections - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,444,544 to Hu et al. Hu et al. teach, with reference to figures 3-5, a fuse structure comprising:

a substrate (not shown, see col. 3, lines 2-4);

a first conductive layer 2 formed on the substrate;

a dielectric layer 8 formed on the substrate and the first conductive layer;

a second conductive layer 4 comprising a position of laser spot 10 formed on part of the dielectric layer;

a third conductive layer 7 formed on part of the dielectric layer placed above the first conductive layer and corresponding to the first conductive layer as it is formed directly above the first layer;

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wherein the third conductive layer is insulated from the first and second conductive layers, and the second conductive layer and the third conductive layers are arranged in a straight line (as evidenced in figure 4B); and

at least one conductive plug 6 penetrating the dielectric layer to electrically connect the first conductive layer and the second conductive layer.

With regard to claim 5, Hu et al. teach that the dielectric is silicon oxide.

7. Claims 15-26 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,562,674 to Tsuura. Tsuura teaches, with reference to figure 9G, a fuse structure comprising:

a substrate 24;

a first conductive layer 25 formed on part of the substrate;

a dielectric layer 26 formed on the substrate and the first conductive layer;

a second conductive layer 13A comprising a position of laser spot 16 formed on the dielectric layer, wherein a portion of the second conductive layer not having the position of laser spot corresponds to the first conductive layer (as seen in figure 9G, the portion of the second conductive layer 13A underlying element 15 does not have the position of laser spot 16 and corresponds to, by overlying, the first conductive layer 25); and

at least one conductive plug 27/29 penetrating the dielectric layer 26 to electrically connect the first conductive layer and the second conductive layer.

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With regard to claim 16 and 23, while Tsuura is silent as to the specific material used for first conductive layer 25, Tsuura does teach that tungsten may be used for a conductive layer (col. 15, lines 1-4). With regard to claims 17 and 24, Tsuura teaches that the material of the second conductive layer may be al. or AlCu (col. 15, lines 26-28). With regard to claims 18 and 25, Tsuura teaches the use of silicon oxide as an insulating film (col. 9, lines 62-65). With regard to claim 19 and 26, Tsuura teaches that the plug may comprise tungsten (col. 15, lines 1-4). With regard to claim 20, Tsuura teaches that the device further comprises a passivation layer 14 having a window formed on the second conductive layer, wherein the window exposes the second conductive layer comprising the position of laser spot. With regard to claim 21, Tsuura teaches the passivation film may be SiN (col. 15, lines 39-40). With regard to claim 22, Tsuura teaches in figure 14 that the device may comprise a plurality of fuses 31 insulated from each other (col. 19, lines 12-37).

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 2-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. Hu et al. taught the device of claim 1 as discussed above but did not expressly teach that the material of the conductive layers may be W, Al, AlCu or polysilicon. Because these materials are all well known and commonly used in the art, their use is considered obvious in the device of Hu et al.

***Allowable Subject Matter***

9. Claims 9-14 are allowed. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Eckert II whose telephone number is (703) 305-2752.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Eddie Lee can be reached on (703) 308-1690. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GCE  
November 17, 2003

  
**GEORGE ECKERT**  
**PRIMARY EXAMINER**